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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/656,791	09/08/2003	Kia Silverbrook	BAL52US	8951

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SILVERBROOK RESEARCH PTY LTD  
393 DARLING STREET  
BALMAIN, 2041  
AUSTRALIA

EXAMINER
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MENBERU, BENIYAM

ART UNIT	PAPER NUMBER
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2625

MAIL DATE	DELIVERY MODE
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08/21/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/656,791	Applicant(s) SILVERBROOK, KIA	
	Examiner Beniyam Menberu	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/8/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Specification***

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract contains more than 150 words.
3. The abstract contains the word "said" in the last two lines.

### ***Drawings***

4. The drawings are objected to because Figures 1A-1F as described in the "Brief Description of the Drawings" is missing from the drawings. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the

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appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

5. Claim 8 is objected to because of the following informalities: There are two periods at the end of the claim 8. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5021892 to Kita et al in view of U.S. Patent No. 5619622 to Audi et al.

Regarding claim 1, Kita et al discloses an image sensing (column 5, lines 19-25) and printing device (column 3, lines 35-37) which comprises

a housing (column 3, lines 31-33; reference 101, Figure 1);

an area image sensor positioned on the housing for sensing a viewed image to be printed on media and for generating pixel data (column 11, lines 7-11) representing the viewed image (column 5, lines 19-39);

a printing mechanism that is arranged on the housing, the printing mechanism defining a media feed path (Figure 1, reference 3, 101; column 3, lines 31-38; column 10, lines 30-43) and comprising

a feed mechanism for feeding media along the media feed path so that the printhead can carry out a printing operation on the media (column 10, lines 30-65); and a processor (CPU 50 in Figure 3) that is positioned in the housing (column 4, lines 45-57; reference 50 reads on processor), the processor comprising

processing circuitry (column 4, lines 55-56; reference 54);

an image sensor interface connected to the processing circuitry for receiving pixel data from the image sensor (column 5, lines 31-39), converting the pixel data into an internal format and writing the converted pixel data to the processing circuitry (column 5, lines 37-45; column 11, lines 4-17), the processing circuitry being configured to convert the pixel data to print image data (column 12, lines 46-65); and

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a printhead (column 3, lines 36-39) interface connected to the processing circuitry (column 12, lines 45-65; reference 67 (which is connected to 54 (processing circuitry) acts as interface to the printing section 3 in Figure 3) for receiving the print image data from the processing circuitry and for providing signals representing the print image data to the printhead so that the printhead can carry out said printing operation to generate a printed representation of said viewed image (column 12, lines 41-65). However Kita et al does not disclose a printhead assembly that includes a pagewidth printhead having at least one printhead chip that spans the media feed path.

Audi et al disclose a printhead assembly that includes a pagewidth printhead having at least one printhead chip that spans the media feed path (column 4, lines 4-34; column 6, lines 1-9; reference 46 reads on printhead chip; reference 12 reads on printhead).

Kita et al and Audi et al are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the pagewidth printhead of Audi et al with the system of Kita et al to implement pagewidth printing.

The motivation to combine the reference is clear because the print system of Audi et al is fast in terms of print operation (column 5, lines 34-60).

Regarding claim 2, Kita et al in view of Audi et al teach all the limitations of claim

1. Further Kita et al disclose a device as claimed in claim 1, in which the area image sensor is one of a charge coupled device and an active pixel sensor (column 3, lines 34-36).

Regarding claim 3, Kita et al in view of Audi et al teach all the limitations of claim

1. Further Audi et al disclose a device as claimed in claim 1, in which the printing mechanism includes an ink distribution assembly that is mounted on the printhead assembly to distribute ink to the printhead chips (column 6, lines 44-53).

Regarding claim 5, Kita et al in view of Audi et al teach all the limitations of claim

1. Further Kita et al disclose a device as claimed in claim 1, in which the processor is configured to be programmable with any of a number of image processing programs so that the processor can carry out image processing operations on the pixel data in accordance with a selected program loaded on the processor (column 4, lines 45-55).

Regarding claim 6, Kita et al in view of Audi et al teach all the limitations of claim

5. Further Kita et al disclose a device as claimed in claim 5, which includes a reader for reading said any of a number of image processing programs stored on a data storage

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device and a reader interface for writing the program to the processor (column 4, lines 45-55).

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5021892 to Kita et al in view of U.S. Patent No. 5619622 to Audi et al further in view of U.S. Patent No. 6597394 to Duncan et al.

Regarding claim 4, Kita et al in view of Audi et al teach all the limitations of claim 1. However Kita et al in view of Audi et al does not disclose a device as claimed in claim 1, in which the processing circuitry defines a VLIW processor that is configured to perform image processing operations on the pixel data.

Duncan et al disclose in which the processing circuitry defines a VLIW processor that is configured to perform image processing operations on the pixel data (column 17, lines 30-62).

Kita et al, Audi et al, and Duncan et al are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the VLIW processing of Duncan et al with the system of Kita et al in view of Audi et al to implement VLIW processor for pixel processing.

The motivation to combine the reference is clear because many instructions can be achieved using VLIW architecture (column 17, lines 34-51).



9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5021892 to Kita et al in view of U.S. Patent No. 5619622 to Audi et al further in view of U.S. Patent Application Publication No. US 2002/0024603 A1 to Nakayama et al.

Regarding claim 7, Kita et al in view of Audi et al teach all the limitations of claim 6. However Kita et al in view of Audi et al does not disclose a device as claimed in claim 6, in which the reader is an optical reader for reading a two-dimensional pattern printed on a planar element, the two-dimensional pattern representing a program in an image processing language, the optical reader being configured to generate program data and the reader interface being configured to receive the program data and to write the program data, in an internal format, to the processor.

Nakayama et al disclose a device as claimed in claim 6, in which the reader is an optical reader for reading a two-dimensional pattern printed on a planar element, the two-dimensional pattern representing a program in an image processing language, the optical reader being configured to generate program data and the reader interface being configured to receive the program data and to write the program data, in an internal format, to the processor (page 3, paragraph 54; page 2, paragraph 32,33,34).

Kita et al, Audi et al, and Nakayama et al are combinable because they are in the similar problem area of image processing.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the image processing of Nakayama et al with the system of Kita et al and Audi et al to implement image processing using optical reader.

The motivation to combine the reference is clear because it provides alternate method for controlling the image device by loading the program from external source (page 1, paragraph 17).

Regarding claim 8, Kita et al in view of Audi et al further in view of Nakayama et al teach all the limitations of claim 7. Further Nakayama et al in view of Audi et al disclose a device as claimed in claim 7, in which the processor includes a memory device (Nakayama et al : page 3, paragraph 54, reference 4, 5), the processing circuitry being configured to write the program data in the internal format to the memory device (Nakayama et al : page 3, paragraph 54; page 2, paragraph 34), the processor further including a central processing unit (Nakayama et al : page 3, paragraph 58) and Audi et al disclose wherein CPU which runs the program from the memory device to define a software algorithm in terms of which the central processing unit addresses registers in the printhead interface to apply a desired effect to the print image data (column 5, lines 12-33; column 5, lines 61-67; column 6, lines 1-9).

***Other Prior Art Cited***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5927872 to Yamada discloses print system.

U.S. Patent No. 4695897 to Watanabe discloses image printing system.

U.S. Patent No. 6137100 to Fossum et al disclose image sensing system.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Beniyam Menberu whose telephone number is (571) 272-7465. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the customer service office whose telephone number is (571) 272-2600. The group receptionist number for TC 2600 is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov/>.

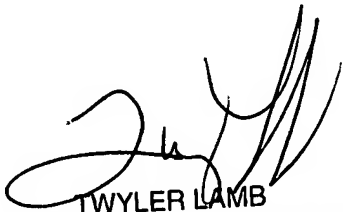
Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

***Patent Examiner***

Beniyam Menberu

BM

08/18/2007



TWYLER LAMB  
SUPERVISORY PATENT EXAMINER